

# Incomplete transverse vesical septum: An unusual congenital anomaly

Rajesh Taneja, Dig Vijay Singh

PSRI Hospital for Liver Renal and Digestive diseases, Press Enclave Road, New Delhi, India

## ABSTRACT

A rare case of incomplete transverse vesical septum with urinary tract tuberculosis is being reported. A 52-year-old male presented with lower urinary tract and systemic symptoms. On investigation he had anemia, leucocytosis, and high serum creatinine. On cystopanendoscopy, there was a transverse ledge of tissue connecting the two lateral walls of the bladder approximately 4 cm proximal to the bladder neck dividing the caudal vesical cavity into anterior and posterior parts. Also, the left ureteric orifice had double barrel look. To our knowledge this is the first ever reported case of incomplete transverse vesical septum.

**Key words:** Bifid ureteric meatus, bladder duplication, congenital anomaly, genitourinary tuberculosis, vesical septum

## INTRODUCTION

Incomplete Vesical septum is a rare congenital anomaly. We present a case of incomplete vesical septum in a transverse plain encountered in a tertiary care center.

## CASE REPORT

A 52-year-old normotensive, nondiabetic married male having borne children, presented with low grade fever, progressively increasing frequency and urgency of urination, dull ache in left flank, and intermittent gross hematuria for the last 1 year.

He also suffered from right flank pain 5 years ago and was treated by indigenous medication for suspected stone disease. He had received various antibiotics for documented urinary tract infections over the last few months.

**For correspondence:** Dr. Rajesh Taneja, 1277 Sector, A Pocket B, Vasant Kunj, New Delhi  
E-mail: rajeshjtanejad@rediffmail.com

Access this article online	
Quick Response Code:	Website: <a href="http://www.indianjurol.com">www.indianjurol.com</a>
	DOI: 10.4103/0970-1591.98464

On further questioning, he was found to be suffering from nausea, hiccoughs, progressive weakness, easy fatigability, loss of weight and lack of appetite. On examination he was febrile, looking ill and pale. Apart from mild suprapubic tenderness, the rest of abdominal examination including external genitalia was unremarkable. The systemic examination was noncontributory. In addition to confirming anemia, (hemoglobin 9.3 g%), his hematological investigations revealed polymorphonuclear leucocytosis (11, 300/mm, polymorphs 92%). His renal parameters were deranged (serum creatinine 8.9 mg%). Despite microscopic pyuria and microhematuria, sample of his urine did not grow any microorganism for 48 h of incubation on aerobic culture media. Ziel Neilson staining of centrifuged urine was found to contain acid fast bacilli suggestive of *Mycobacterium tuberculosis*. A radiograph of chest was suggestive of tubercular infiltration of left upper zone. Ultrasonogram of abdomen and later on a nonenhanced CT scan confirmed multiple areas of calcification in right kidney and there was evidence of severe infundibular stenosis and thinning of renal parenchyma and collapsed right ureter in continuation with a small intra renal pelvis. Left renal pelvis and ureter were dilated and had thick contents (Haunsfield value 25). There was significant perinephric and periureteric stranding. Both the ureters were found to be entering the bladder quite anteriorly. There was an unusual ledge of soft tissue seen running transversely in the anterior half of urinary bladder [Figure 1]. The seminal vesicles appeared small.

See video online: [www.indianjurol.com](http://www.indianjurol.com)

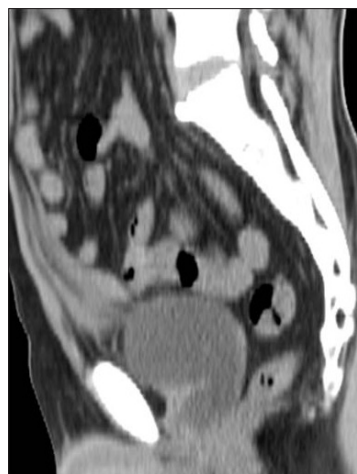
Sonographically there was no significant residual urine. Radionuclide scan could not be done due to high serum creatinine (8.9 mg%) to document upper urinary tract transport disturbances.

A working diagnosis of Tuberculosis of urinary tract with infected left hydronephrosis, right thinned out and calcified renal parenchyma with deranged renal function was made. The patient underwent hemodialysis and was administered standard four drugs antitubercular treatment with dose modification as per the renal impairment. After stabilizing the general condition, he was taken up for cystoscopy, left retrograde ureteropyelogram and left DJ stenting under spinal anesthesia. On cystoscopy, there was evidence of pan urethritis, dilated prostatic urethra with no visible verumontanum. The bladder neck appeared scarred and tight. The bladder mucosa was congested, friable, and bleeding on probing. There was a transverse ledge of tissue connecting the two lateral walls of the bladder approximately 4 cm proximal to the bladder neck dividing the caudal vesical cavity into anterior and posterior parts [Figure 2]. These two parts were found to become one cavity cranially as could be seen in the reformatted sagittal image of CT scan. His right ureteric orifice was atretic and could not be cannulated. The left ureteric orifice was placed anteriorly as anticipated and the entry to this orifice was also guarded by a transverse bar of mucosa, giving it a double barrel look. However, on cannulation with a soft 5 F ureteric catheter this was found to be a single ureter with bifid meatus (see video clip in the supplementary material). Left retrograde ureteropyelogram confirmed obstruction at 4 cm proximal to the ureterovesical junction with proximal hydronephrosis. A gush of turbid urine escaped from the left ureter as the ureteric catheter was advanced into the kidney. A double J stent was placed into left pelvicalyceal system and multiple bladder biopsies were taken. Postoperatively, the patient had brisk diuresis with fall in serum creatinine to 1.9 mg% in 72 h. His fluid and electrolytes were monitored meticulously and managed accordingly.

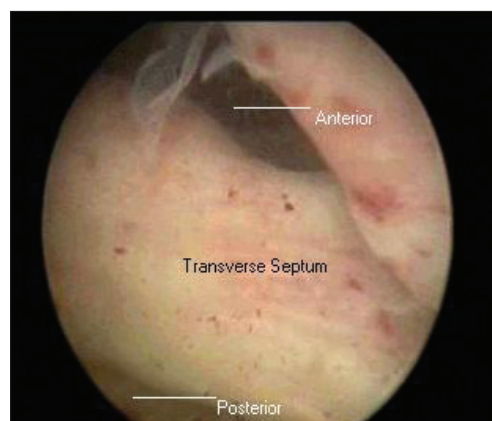
Histopathological examination of the bladder tissue obtained by cold cup biopsy confirmed tuberculosis. He has been advised to undergo right nephrectomy and follow up for left ureteric obstruction which might require ureteroneocystostomy.

## DISCUSSION

Vesical septae and duplication of bladder appear to be rare congenital anomalies of the urinary bladder. The embryological basis of duplication of urinary bladder is poorly understood. Various degrees of duplication of hindgut and bladder are thought to result from partial twinning of the tail portion of the embryo.



**Figure 1:** Reformatted sagittal image of CT scan showing vesical septum in the anterior half of urinary bladder



**Figure 2:** The cystoscopic picture showing transverse ledge of tissue dividing the caudal vesical cavity into two antero-posterior parts

Duplication of bladder could be complete or incomplete with varying degrees of septa formation within the bladder.<sup>[1]</sup> To our knowledge the present case is the only one with a transverse vesical septum reported in literature. These anomalies are usually associated with variations in other genitourinary organs like partial or complete duplication of urethra,<sup>[2]</sup> congenital urethral valves,<sup>[3]</sup> unilateral renal dysplasia, and unilateral gonadal agenesis,<sup>[4]</sup> and many others. There might be associated congenital anomalies of the other organ systems like duplication of gut.<sup>[5]</sup> In the present case, there was an incomplete transverse septum joining the two lateral walls of the bladder with a partial septum like mucosal fold causing left bifid ureteric orifice.

With modern diagnostic tools these anomalies may be picked up *in utero*. Our patient has presented with this congenital anomaly in the sixth decade of life and that too because of coexisting tuberculosis affecting the urinary system. The cystoscopic absence of verumontanum and the CT findings suggestive of small sized seminal vesicles have raised the doubts about his paternity status. He was advised to get a semen analysis done, which he refused.

Due to paucity of cases in printed literature, there is no uniformity in the treatment plan. However the treatment is guided by the clinical presentation. Most often than not, the septum has been resected to improve the lower urinary tract symptoms. In our case the patient became symptomatic only after 50 years of age and that can be attributed to the coexisting tuberculosis. The septum which was running from one lateral wall to the other and the unusual bifid ureteric orifices, which appeared to have the same anomalous basis, i.e., a transverse ledge of mucosa splitting the ureteric meatus into anterior and posterior parts (as is evident in the video) cannot be explained on the basis of tuberculosis alone. Since the patient remained asymptomatic till almost 50 years of life, it can be assumed that this anomaly was not *per se*, a cause of symptoms and therefore he may not have required any treatment, had he not contracted tuberculosis. After adequate anti tubercular cover, he was to undergo right nephrectomy and follow up management of left lower ureteric obstruction probably an ureteroneo cystostomy. He was not very keen to pursue allopathic treatment and decided to go for alternative medicine. Therefore the overall outcome could not be assessed as he was lost to follow up.

In view of varied morphological presentation, there is a need to review the classification of vesical septae especially

in light of presence of incomplete septum as in the present case. In addition, the presence of bifid ureteric orifice raises interesting embryological issues surrounding the morphogenesis as this appears to be an incomplete septum of the ureteric orifice itself.

## REFERENCES

1. Egghart G, de Petriconi R, Söndgen W, Peiberg G. [Bladder duplication. A case report] Urologe A 1984;23:348-50.
2. Bae KS, Jeon SH, Lee SJ, Lee CH, Chang SG, Lim JW, *et al*. Complete duplication of bladder and urethra in coronal plane with no other anomalies: Case report with review of the literature. Urology 2005;65:388.
3. Laughlin VC, Derian GH, Boyd PF. Incomplete frontal septum of bladder complicated by congenital urethral valves and complete reduplication of upper left urinary tract. J Urol 1952;68:289-96.
4. Metzger R, Schuster T, Stehr M, Pfluger T, Dietz HG. Incomplete duplication of the bladder. A case report. Eur J Pediatr Surg 2004;14:203-5.
5. Coker AM, Allshouse MJ, Koyle MA. Complete duplication of bladder and urethra in a sagittal plane in a male infant: Case report and literature review. J Pediatr Urol 2008;4:255-9.

**How to cite this article:** Taneja R, Singh DV. Incomplete transverse vesical septum: An unusual congenital anomaly. Indian J Urol 2012;28:193-5.

**Source of Support:** Nil, **Conflict of Interest:** None declared.

### Announcement

#### Android App



Download  
**Android  
application**

FREE

A free application to browse and search the journal's content is now available for Android based mobiles and devices. The application provides "Table of Contents" of the latest issues, which are stored on the device for future offline browsing. Internet connection is required to access the back issues and search facility. The application is compatible with all the versions of Android. The application can be downloaded from <https://market.android.com/details?id=comm.app.medknow>. For suggestions and comments do write back to us.